Table S1: Information regarding surface snow samples collected during the Casey-Law Dome traverse on 10th February 2016.

Sample designation	Sampling time	Latitude	Longitude	Distance from Casey	Altitude	Accumulation	Na concentration		Br concentration		Br Flux	Na flux
		(degrees S)	(degrees E)	(km)	(m)	(m yr^{-1} we)	ng g^{-1}	std error	ng g^{-1}	std error	(mg m^{-2} yr^{-1})	(mg m^{-2} yr^{-1})
LD1	08:19	-66.3	111.0	20	500	0.15	97.3	4.0	1.32	0.04	0.20	14.6
LD2	08:32	-66.3	111.1	25	600	0.15	332.1	10.6	0.76	0.02	0.11	49.8
LD3	09:03	-66.4	111.3	35	700	0.15	285.7	10.4	2.45	0.10	0.37	42.9
LD4	09:20	-66.4	111.4	41.2	750	0.15	231.2	7.1	0.99	0.05	0.15	34.7
LD5	09:57	-66.4	111.7	57.1	959	0.15	155.1	3.2	0.32	0.02	0.05	23.3
LD6	10:40	-66.5	112.0	69.7	1071	0.15	16.8	1.1	1.12	0.06	0.17	2.5
LD7	11:08	-66.5	112.2	80.1	1155	0.2	199.0	9.0	2.06	0.07	0.41	39.8
LD8	11:39	-66.6	112.4	90.7	1235	0.3	194.7	3.6	0.46	0.03	0.14	58.4
LD9	12:05	-66.7	112.6	101	1320	0.45	204.9	9.3	1.72	0.11	0.77	92.2
LD10	12:33	-66.7	112.8	111	1372	0.6	235.2	11.8	2.22	0.06	1.33	141.1
LD11	12:53	-66.8	112.8	114	1350	0.8	7.0	1.7	1.23	0.04	0.98	5.6